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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,627	09/23/2003	Kazuko Shinozaki	382.1029DIV2	7894
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Davidson, Davidson & Kappel, LLC			EXAMINER	
485 17th Avenue			KRUSE, DAVID H	
14th Floor			ART UNIT	PAPER NUMBER
New York, NY 10018			1638	
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			01/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/668,627	Applicant(s) SHINOZAKI ET AL.	
	Examiner David H. Kruse	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office action is in response to the Amendment and Remarks filed on 26 October 2007.
2. The references attached to the response of 26 October 2007 have been cited on the attached PTO-892 form.
3. The rejection under provisional Obviousness type double patenting over Application No. 10/266,487 is moot, Applicants had previously filed a terminal disclaimer over the issued patent U.S. 7,045,355.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

5. Claims 5, 7, 9 and 11 remain rejected under 35 U.S.C. § 102(e) as being anticipated by Thomashow *et al* (U.S. Patent 6,417,428 B1, filed 23 November 1998, and claiming priority as a continuation-in-part to U.S. Patent Application 09/017,816, filed 3 February 1998). This rejection is repeated for the reason of record as set forth in the last Office action mailed 26 June 2007. Applicant's arguments filed 26 October 2007 have been fully considered but they are not persuasive.

Applicants argue that the Thomashow patent does not teach a transgenic plant transformed with a DNA operably linked to a stress responsive promoter, wherein "said transgenic plant exhibits improved tolerance to dehydration, low temperature or salt, as compared to a wild type plant, and is free from dwarfing" as recited in independent claims 5 and 7 (page 6, 1st paragraph of the Remarks). This argument is not found to be

persuasive. The fact that Thomashow did not recognize at the time of the invention that attaching the promoter(s) recited in the instant claims to a DNA that encodes a protein consisting of the amino acid sequence as shown in SEQ ID NO: 8 would produce transgenic plants free from dwarfing is irrelevant. Failure of those skilled in the art to contemporaneously recognize an inherent property, function or ingredient of a prior art reference does not preclude a finding of anticipation, *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1349, 51 USPQ2d 1943, 1948 (Fed. Cir. 1999). Thomashow had disclosed a plant transformed with a DNA that encodes a protein consisting of the amino acid sequence as shown in SEQ ID NO: 8, and had disclosed operably linking a promoter that is regulated by changes in environmental conditions (claim 8).

Thomashow had disclosed that the rd29A, cor6.6, cor15a and kin1 gene promoters have this function and can be used in the claimed invention (see Figure 17D; column 2, lines 23-56; column 46, Table 4).

Claim Rejections - 35 USC § 103

6. Claims 6, 8, 10 and 12 remain rejected under 35 U.S.C. § 103(a) as being unpatentable over Thomashow *et al* (U.S. Patent 6,417,428 B1, filed 23 November 1998, and claiming priority as a continuation-in-part to U.S. Patent Application 09/017,816, filed 3 February 1998). This rejection is repeated for the reason of record as set forth in the last Office action mailed 26 June 2007. Applicant's arguments filed 26 October 2007 have been fully considered but they are not persuasive.

Applicants argue that operably linking DNA, as recited in the present claims, with rd29A promoter (a stress responsive promoter) provides unexpected results (i.e., a

plant with improved stress tolerance that is free of dwarfing); See e.g., Example 5 of the specification as filed and experimental results submitted on August 16, 2006. Applicants argue that one skilled in the art, would expect the rest of the specific stress responsive promoters recited in claim 1 (i.e., rd17 gene promoter, cor6.6 gene promoter, cor15a gene promoter, and kin1 gene promoter) to provide similar results, at the very least, because rd29A and the rest of the specific stress responsive promoters recited in claim 1 [sic] (i.e., rd17 gene promoter, cor6.6 gene promoter, cor15a gene promoter, and kin1 gene promoter) all have DRE regions containing the sequence of "A/GCCGACNT," the sequence that has a high affinity with DREB 1 type protein (page 6, 5th and 6th paragraphs of the Remarks). These arguments are not found to be persuasive. Thomashow had taught using the recited promoters attached to a DNA encoding the CBF2 (DREB1c) transcription factor in a transgenic plant. Thomashow had taught that these promoters contain DRE regions. Given the teachings of Thomashow, one skilled in the art would have been motivated to make the instant invention given the specific guidance in Thomashow.

Applicants argue that the data in Appendix A shows, e.g., that all of the stress responsive promoters recited in the present claims have DRE regions containing the sequence of "A/GCCGACNT," whereas the constitutive promoter recited in the Thomashow patent (i.e., rd29 promoter) does not (page 7, 1st paragraph of the Remarks). This argument is not found to be persuasive, Thomashow had taught that the cold-regulatory elements contain DRE regions at column 2, lines 23-56.

Applicants' arguments at page 7, 2nd paragraph concerning the teachings of Gilmore *et al*/ 2004 are not found to be persuasive because this reference is directed to teachings in the art after the time of Applicants' invention.

Applicants argue that a constitutive promoter described in the Thomashow patent (i.e., rd29B promoter) operably linked to the DNA as recited in the present claims does not have the same DRE sequences as the stress responsive promoters recited in the present claims (See e.g., Appendix A), and that the binding affinities of DREB 1 type proteins (i.e., DREB 1A, 1B, and 1C) to DRE regions comprising "A/GCCGACNT" (i.e., in the stress-responsive promoters recited in the present claims) would not be same as the binding affinities of these proteins to rd29B promoter (See e.g., Appendix B) (page 7, 3rd paragraph of the Remarks). This argument is not found to be persuasive. Thomashow had taught that the rd29A, cor6.6, cor15a and kin1 gene promoters have this function and can be used in the claimed invention (see Figure 17D; column 2, lines 23-56; column 46, Table 4).

Applicants argue that one skilled in the art, would expect that the specific stress responsive promoters recited in the present claim will provide similar results (i.e., results provided by rd29A- a plant with improved stress tolerance that is free of dwarfing), when operably linked to a DNA as recited in the present claims, at the very least, because all of these promoters have DRE regions containing the sequence of "A/GCCGACNT," the sequence that has a high affinity with DREB 1 type protein. Applicants argue that this is something that is not taught or suggested by the Thomashow patent, and, therefore, is unexpected (paragraph spanning pages 7-8 of the Remarks). This argument is not

found to be persuasive. Thomashow had taught using the recited promoters attached to a DNA encoding the CBF2 (DREB1c) transcription factor in a transgenic plant.

The Examiner notes that the instant arguments do not address the central issue of the instant rejection, that being the difference between SEQ ID NO: 12 taught by Thomashow which is only the coding region for the CBF2 (DREB1c) transcription factor and Applicants' SEQ ID NO: 7 which contains additional 5' nucleic acids (1-134) not taught by Thomashow. Applicants' SEQ ID NO: 7 appears to be a cDNA sequence which would not comprise promoter sequence(s), Thomashow's SEQ ID NO: 12 consists of only the amino acid coding region. It is the Examiner's opinion that given the teachings of Thomashow, one of ordinary skill in the art could have isolate a complete cDNA comprising Applicants' SEQ ID NO: 7 and would have had a reasonable expectation of success at the time of the instant invention.

Double Patenting

7. Claims 5-12 remain provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 3 of copending Application No. 10/798,579. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed method of the copending application would render obvious the claimed transgenic plant because the copending application also teaches the DREB1C gene of SEQ ID NO: 7. Applicants' response filed on 26 October 2007 does not address this rejection; hence it is maintained for the reasons of record.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR § 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR § 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. No claims are allowed.

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10/668,627
Art Unit: 1638

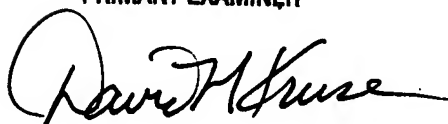
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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (571) 272-0799. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at (571) 272-0975. The central FAX number for official correspondence is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-1600.

DAVID H. KRUSE, PH.D.
PRIMARY EXAMINER



David H. Kruse, Ph.D.
28 December 2007

11. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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